CLAIMS

What is claimed is:

1. An impression cap for a dental impression system, comprising:

a cylinder-shaped body having a longitudinal axis, a first end and a second end, at least the second end being provided with an opening, the opening extending longitudinally into the body from the second end forming a inner cavity;

a press fit mechanism formed in the second end of the body, for squeezing an outer circumferential collar of a dental implant, said circumferential collar having an outer diameter and said dental implant having a longitudinal axis, a top and a bottom, wherein the press fit mechanism squeezes the collar of the dental implant via a press fit, such that, when the press fit mechanism squeezes the collar, the portions of the press fit mechanism which are at or below the outer diameter of the collar have an inner diameter which equal to or greater than the outer diameter of the collar.

2. An impression cap according to claim 1, an inner circumferential angled surface located at the second end of the body and having a size and shape complementary to an outer, upper shoulder of the circumferential collar of the dental implant squeezed by the press fit mechanism.

3. An impression cap according to claim 2, the press fit mechanism comprising a circumferential flange extending downward from the body, the flange having an inner squeezing surface, wherein the inner squeezing surface squeezes the collar at is maximum diameter when the inner circumferential angled surface is mated to the upper shoulder of the implant.

4. An impression cap according to claim 3, the press fit mechanisms further comprising a curved relief between the inner circumferential angled surface and the inner squeezing surface, said relief forming a gap between the impression cap and the implant when the impression cap is positioned on the implant.

5. An impression cap according to claim 3, the flange further comprising a tapered surface, said tapered surface extending downward from the squeezing surface and away from the from the implant.

6. An impression cap according to claim 4, the flange further comprising a tapered

surface, said tapered surface extending downward from the squeezing surface and away from the from the implant.

7. An impression cap according to claim 3, the flange having a bottom end, the flange further comprising an outer angled surface, the outer angled surface extending downward and inward to the bottom end of the flange.

8. An impression cap according to claim 6, the flange having a bottom end, the flange further comprising an outer angled surface, the outer angled surface extending downward and inward to the bottom end of the flange.

9. An impression cap according to claim 3, the body having an inner surface wall, said inner circumferential angled surface angling outward from the inner surface wall, wherein a channel is formed in the inner circumferential angled surface, such that a vent from the cavity to the outside is formed when the impression cap is positioned on the implant.

10. An impression cap according to claim 9, wherein there is at least two channels formed in the inner circumferential angled surface.

11. An impression cap according to claim 1, wherein the body is generally conical.

12. An impression cap according to claim 11, wherein the inner cavity of the impression cap has an inner geometry which comprises an internal abutment flat and has a size and shape complementary to an abutment piece which may be secured in the implant.

13. An impression cap according to claim 1, the impression cap having a one-way vent positioned at the first end of the cap.

14. An impression cap according to claim 9, wherein the body is generally conical and wherein the impression cap has a one-way vent position at the first end of the cap, the one-way vent allowing air to be released from the internal cavity, but seals to prevent external material from entering the internal cavity when the cap is encased in impression material.

15. An impression cap according to claim 12, the impression cap having a external geometry which references an external abutment feature during an impression procedure enabling proper positioning of an abutment analog to reproduce a abutment orientation and implant position.

16. An impression cap according to claim 3, the impression cap being elastic, wherein, while press fitting the impression cap on the implant, the combination of the impression cap elastic material expanding during engagement of the implant outer collar diameter and the bottoming out of the impression cap on the implant table provides a tactile feel to the

clinician that the impression cap is fully assembled to and self-centered on the implant.

17. An impression cap according to claim 3, the impression cap being elastic, wherein while press fitting the impression cap on the implant, the combination of the impression cap elastic material expanding during engagement of the implant outer collar diameter and the bottoming out of the impression cap on the implant table provides an audible sound to the clinician that the impression cap is fully assembled to and self-centered on the implant.

18. An impression cap according to claim 3, wherein the impression cap is color coded to denote abutment length and implant collar diameter and correspond to the appropriate color coded abutment and abutment analog.

19. An impression cap according to claim 1, wherein the body comprises:

a side wall having an outer surface; and

at least one circumferential rib protruding outward from the outer surface of the side wall.

20. An impression cap according to claim 19, the body comprising two circumferential ribs protruding outward from the outer surface of the side wall, wherein the two circumferential ribs are spaced apart along the longitudinal axis of the cap.

21. An impression cap according to claim 20, at least one of the circumferential ribs having a flat surface which serves as an external abutment feature during an impression procedure enabling proper positioning of an abutment analog to reproduce a abutment orientation and implant position.

22. An impression cap according to claim 20, wherein the circumferential ribs comprise at least one concave surface around their periphery.

23. An impression cap according to claim 19, further comprising a first vertical rib protruding outward from the outer surface of the side wall and extending from the first end of the cap to the second end.

24. An impression cap according to claim 21, further comprising a first vertical rib protruding outward from the outer surface of the side wall and extending from the first end of the cap to the second end.

25. An impression cap according to claim 23, further comprising a second vertical rib, wherein the vertical ribs are spaced 180 degrees apart from one another around the periphery of the cap.

26. An impression cap according to claim 24, further comprising a second vertical rib, the

first vertical rib being aligned with the flat surface on the at least one circumferential rib.

27. An impression cap according to claim 12, the impression cap having a external geometry which references an external abutment feature during an impression procedure enabling proper positioning of an abutment analog to reproduce a abutment orientation and implant position.

28. An impression cap according to claim 1, wherein the cap is gamma sterilizable.

29. An impression cap according to claim 28, wherein the cap is plastic.

30. An impression cap according to claim 29, wherein the cap is made from polypropylene.

31. An impression cap for a dental impression system, wherein the impression cap is gamma sterilized.

32. An impression cap according to claim 31, wherein the cap is made from polypropylene.

33. An impression cap according to claim 9, further comprising a second channel formed in the inner circumferential angled surface, such that a second vent from the cavity to the outside is formed when the impression cap is positioned on the implant.

34. An impression cap according to claim 32, wherein the channels are situated in opposing positions in the inner circumferential angled surface.

35. An impression cap according to claim 25, the impression cap having an inner cavity, wherein the inner cavity of the impression cap has an inner geometry which comprises an internal abutment flat and has a size and shape complementary to an abutment piece which may be secured in the implant, the first vertical rib being aligned with the internal abutment flat, the vertical ribs having a width and a depth, wherein the width of the first vertical rib is greater than the width of the second vertical rib substantially along theirs lengths.

36. An impression cap according to claim 35, wherein the two vertical ribs are spaced 180 degrees apart from one another around the periphery of the cap.

37. An impression cap according to claim 36, wherein the second vertical rib thickens at its bottom.

38. An impression cap according to claim 37, the body having an inner surface wall, said inner circumferential angled surface angling outward from the inner surface wall, wherein a first channel is formed in the inner circumferential angled surface, such that a first vent from the cavity to the outside is formed when the impression cap is positioned on the implant.

39. An impression cap according to claim 38, further comprising a second channel formed in the inner circumferential angled surface forming a second vent.

40. An impression cap according to claim 39, wherein the vertical ribs are each aligned with a channel.

41. An impression cap according to claim 35, wherein the internal abutment flat comprises an abutment surface facing inward, the abutment surface comprising a bulge extending inward.

42. An impression cap according to claim 40, wherein the internal abutment flat comprises an abutment surface facing inward, the abutment surface comprising a bulge extending inward.

43. An impression cap according to claim 12, wherein the internal abutment flat comprises an abutment surface facing inward, the abutment surface comprising a bulge extending inward.

44. An impression cap for a dental impression system, comprising:

a cylinder-shaped body having a longitudinal axis, a first end and a second end, at least the second end being provided with an opening to engage an abutment piece, the opening extending longitudinally into the body from the second end forming a inner cavity, the cylinder-shaped body further having an inner surface and an outer surface, the impression further comprising a first groove formed in the inner surface adjacent the second end, such that, when the impression cap is placed over the abutment piece, air is vented between the first groove and the abutment piece.

45. An impression cap according to claim 44, wherein the first end of the cap is substantially closed forming a top.

46. An impression cap according to claim 45, further comprising a one-way vent formed in the top of the cap.

47. An impression cap according to claim 44, further comprising a second groove formed in the inner surface adjacent the second end, such that, when the impression cap is placed over the abutment piece, air is vented between the first groove and the abutment piece.

48. An impression cap according to claim 47, wherein the grooves are positioned in the inner surface in opposing fashion.

49. An impression cap according to claim 44, wherein the cylinder-shaped body is conical.

50. An impression cap according to claim 44, wherein an abutment flat is formed in the inner surface.

51. An impression cap according to claim 50, the cap further comprising an exterior geometry which indicates the positioning of the abutment flat.

52. An impression cap according to claim 50, the cap further comprising a bulge formed on the abutment flat which extends inward to create a press fit when the cap is placed over an abutment piece.

53. An impression cap according to claim 44, further comprising a press fit mechanism formed in the second end of the body, for squeezing an outer circumferential collar of a dental implant, said circumferential collar having an outer diameter and said dental implant having a longitudinal axis, a top and a bottom, wherein the press fit mechanism squeezes the collar of the dental implant via a press fit, such that, when the press fit mechanism squeezes the collar, the portions of the press fit mechanism which are at or below the outer diameter of the collar have an inner diameter which equal to or greater than the outer diameter of the collar.

54. An impression cap according to claim 44, further comprising at least one circumferential rib protruding outward from the outer surface of the side wall.

55. An impression cap according to claim 54, the body comprising two circumferential ribs protruding outward from the outer surface of the side wall, wherein the two circumferential ribs are spaced apart along the longitudinal axis of the cap.

56. An impression cap according to claim 55, wherein the circumferential ribs comprise at least one concave surface around their periphery.

57. An impression cap according to claim 47, further comprising a first vertical rib protruding outward from the outer surface of the side wall and extending from the first end of the cap to the second end.

58. An impression cap according to claim 57, further comprising a second vertical rib, wherein the vertical ribs are spaced apart from one another around the periphery of the cap.

59. An impression cap according to claim 58, the impression cap having an inner cavity, wherein the inner cavity of the impression cap has an inner geometry which comprises an internal abutment flat and has a size and shape complementary to an abutment piece which may be secured in the implant, the first vertical rib being aligned with the internal abutment flat, the vertical ribs having a width and a depth, wherein the width of the first vertical rib is greater than the width of the second vertical rib substantially along theirs lengths.

60. An impression cap according to claim 59, wherein the two vertical ribs are aligned with the grooves.

61. An impression cap according to claim 60, wherein the second vertical rib thickens at its bottom.

62. An impression cap for a dental impression system, comprising:

a cylinder-shaped body having a longitudinal axis, a first end and a second end, at least the second end being provided with an opening to engage an abutment piece, the opening extending longitudinally into the body from the second end forming a inner cavity, the cylinder-shaped body further having an inner surface and an outer surface, the impression further comprising an abutment flat is formed in the inner surface and a bulge formed on the abutment flat which extends inward to create a press fit when the cap is placed over an abutment piece.

63. An impression cap according to claim 62, the cap further comprising an exterior geometry which indicates the positioning of the abutment flat.

64. An impression cap according 62, the impression further comprising a first groove formed in the inner surface adjacent the second end, such that, when the impression cap is placed over the abutment piece, air is vented between the first groove and the abutment piece.

65. An impression cap according to claim 62, wherein the first end of the cap is substantially closed forming a top.

66. An impression cap according to claim 65, further comprising a one-way vent formed in the top of the cap.

67. An impression cap according to claim 64, further comprising a second groove formed in the inner surface adjacent the second end, such that, when the impression cap is placed over the abutment piece, air is vented between the first groove and the abutment piece.

68. An impression cap according to claim 44, wherein the cylinder-shaped body has a generally conical inner cavity.

69. An impression cap according to claim 62, further comprising a press fit mechanism formed in the second end of the body, for squeezing an outer circumferential collar of a dental implant, said circumferential collar having an outer diameter and said dental implant having a longitudinal axis, a top and a bottom, wherein the press fit mechanism squeezes the collar of the dental implant via a press fit, such that, when the press fit mechanism squeezes the collar, the portions of the press fit mechanism which are at or below the outer diameter of the collar

have an inner diameter which equal to or greater than the outer diameter of the collar.

70. An impression cap according to claim 62, further comprising a first vertical rib protruding outward from the outer surface of the side wall and extending from the first end of the cap to the second end.

71. An impression cap according to claim 70, further comprising a second vertical rib, wherein the vertical ribs are spaced apart from one another around the periphery of the cap.

72. An impression cap according to claim 71, wherein the second vertical rib thickens at its bottom.

73. An impression cap for a dental impression system, comprising:

a cylinder-shaped body having a longitudinal axis, a first end and a second end, at least the second end being provided with an opening to engage an abutment piece, the opening extending longitudinally into the body from the second end forming a inner cavity, the cylinder-shaped body further having an inner surface and an outer surface, the impression further comprising an abutment flat is formed in the inner surface and an external geometry formed on the outer surface.

74. An impression cap according to claim 73, wherein the cap has a generally conical inner cavity.

75. An impression cap according to claim 73, wherein the outer surface is generally conical.

76. An impression cap according to claim 73, wherein the external geometry identifies the positioning of the inner abutment flat.

77. An impression cap according to claim 73, the body comprising two circumferential ribs protruding outward from the outer surface of the side wall, wherein the two circumferential ribs are spaced apart along the longitudinal axis of the cap.

78. An impression cap according to claim 77, at least one of the circumferential ribs having a flat surface which serves as an external abutment feature during an impression procedure enabling proper positioning of an abutment analog to reproduce a abutment orientation and implant position.

79. An impression cap according to claim 77, wherein the circumferential ribs comprise at least one concave surface around their periphery.

80. An impression cap according to claim 77, further comprising a first vertical rib protruding outward from the outer surface of the side wall and extending from the first end of

the cap to the second end.

81. An impression cap according to claim 80, further comprising a second vertical rib, wherein the vertical ribs are spaced apart from one another around the periphery of the cap.

82. An impression cap according to claim 81, the first vertical rib being aligned with the internal abutment flat, the vertical ribs having a width and a depth, wherein the width of the first vertical rib is greater than the width of the second vertical rib substantially along theirs lengths.

83. An impression cap according to claim 81, wherein the two vertical ribs are spaced 180 degrees apart from one another around the periphery of the cap.

84. An impression cap according to claim 81, wherein the second vertical rib thickens at its bottom.

85. An impression cap according to claim 77, wherein the internal abutment flat comprises an abutment surface facing inward, the abutment surface comprising a bulge extending inward.

86. An impression cap for a dental impression system, comprising:

a cylinder-shaped body having a longitudinal axis, a first end and a second end, at least the second end being provided with an opening to engage an abutment piece, the opening extending longitudinally into the body from the second end forming a inner cavity, the cylinder-shaped body further having an inner surface and an outer surface, wherein the first end is substantially closed forming a top, the top comprising a vent, the vent having a slit which releases air when the cap is placed onto an abutment piece.

87. An impression cap according to claim 86, wherein the vent comprises a cover which is attached to the top of the cap.

88. An impression cap according to claim 87, wherein there are two slits formed in the top of the cap.

89. An impression cap according to claim 88, wherein the two slits are formed on either side of the cover.